

9654-RL-01

OSNABURGH STREET

Television Reception

Pre-Development Survey

MHT Consultants

January 2007

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Electromagnetic Environmental Effects
Quedgeley GLOS, GL2 4XZ
18th Jan 2007

M.H.THURLOW.....*Martin Thurlow*

For and on behalf of MHT Consultants

1.0 TEST DETAILS

1. 1 Test Detail

Test Venue : Primrose Hill & Hampstead Area, London
Test Dates : 11th January 2007
Test Personnel : M.H.Thurlow
Test Specification :
Test Protocol : MHTC EM Ambient Test Protocol

1.2 Summary

An Electromagnetic Emission Field Strength survey has been carried out in the Primrose Hill & Hampstead area of London to the north of the Osnaburgh Street Development site.

The purpose of the tests was to measure and quantify the current level of TV reception in the area prior to the development of the site. The intention is to carry out further tests after completion of the site. Then by comparison of the before and after measurements the impact of the development upon the TV reception in the area can be assessed.

The field strength measurements obtained at the survey test positions shows the current quality of TV reception in the area can be expected to be acceptable to good.

2. INTRODUCTION

2.1 General

EM ambient measurements have been carried out in the general residential area of Primrose Hill & Hampstead in London, England. These measurements were carried out for and on behalf of Ove Arup by MHT Consultants.

Testing was carried out on the 11th January 2007; measurements were carried out to the general methods defined in European Standards over the frequency range 450MHz to 650MHz.

The purpose of the tests was to measure the general field strength and signal/noise levels for television reception in the area to the north of the Osnaburgh Street Development. This measurement is required to provide a base-line measure of the TV reception performance in the area prior to the development of the site. Then by comparison of these results with those of a post-development survey the impact of the development upon the TV reception in the area can be assessed.

RF emission measurements were made over the following frequency range covering the television broadcast band:

450MHz ~ 650MHz

Testing was carried out using one mobile test station in the early hours of 11th January 2007 with 1 test engineer on site during the test.

2.2 Survey Area Description

There are two main transmitters serving the Greater London area, these are located at Crystal Palace for BBC and ITV channels and at Croydon for the C5 channel. The antenna mast heights are

Crystal Palace ~ 321 AOD
Croydon ~ 289 AOD

Both transmitters are horizontally polarised. Due to the scattering of buildings etc in the London area coupled with the wide coverage area required there are a great number of TV transmitters and transponders in the Greater London area.

It should be noted that the quality of TV reception is not only dependent upon the signal strength but also on the received signal/noise ratio.

The field strength survey was carried out at the survey points in the area of possible shadowing to the north of the Osnaburgh Street Development. The general layout of the surveyed test area is shown in figure.A.1.

3.0 TEST METHOD

3.1 Test Method

For the radiated electric and plane-wave tests standard test methods, based upon those described in the European and International standards for radiated Electric and Plane-wave fields, have been employed.

The measurements were made in the frequency domain using a broadband Log Periodic (LPA) antenna as the field transducer. A specialist modified RFI scanning receiver was used as the measurement system. Peak detection was used throughout for the data collection. The analysed data was then stored on a PC controller. The system is pre and post calibrated.

3.2 Measurement Sampling

The test positions of the field strength survey antennas along each of the survey lines are shown by figure.A.1 whilst figure.A.2 shows the test schematic for the radiated electric emission tests. All the measurements of the radiated electric emissions were made at a height of 5.0m above ground level. For the TV Band A, the measurements were made in horizontal polarisation to match the possible TV transmitters.

4.0 TEST RESULTS

4.1 Measurement Parameters

The measured results of the current TV reception in the Primrose Hill & Hampstead area to the north of the Osnaburgh Street Development are shown in the graphs of Appendix.B.

4.2 Graphical Results

The graphical results for each test position are given in Appendix.B.

For each survey line measurement, the first plot shows the superimposed results of the field strengths measured in Band A at the test positions along the survey line.

The variation of the measured field strength along the survey line at the BBC1 Chan 26 (Crystal Palace) and the C5 Chan 37 (Croydon) frequencies is also given in the subordinate graphs. It should be noted that, due to restrictions in access, the test positions are not necessarily equally spaced along the survey line. However for each survey line 6 test positions were

measured to ensure that the TV signal was sampled both external to and within the predicted area of the TV shadow.

5.0 CONCLUSIONS

The field strength measurements obtained at the survey test positions shows some variation along several survey lines but an adequate signal/noise ratio was noted across the whole of the surveyed area.

The field strength measurements obtained at the survey test positions shows the current quality of TV reception in the area can be expected to be acceptable to good.

Appendix.A Test Schematics General View

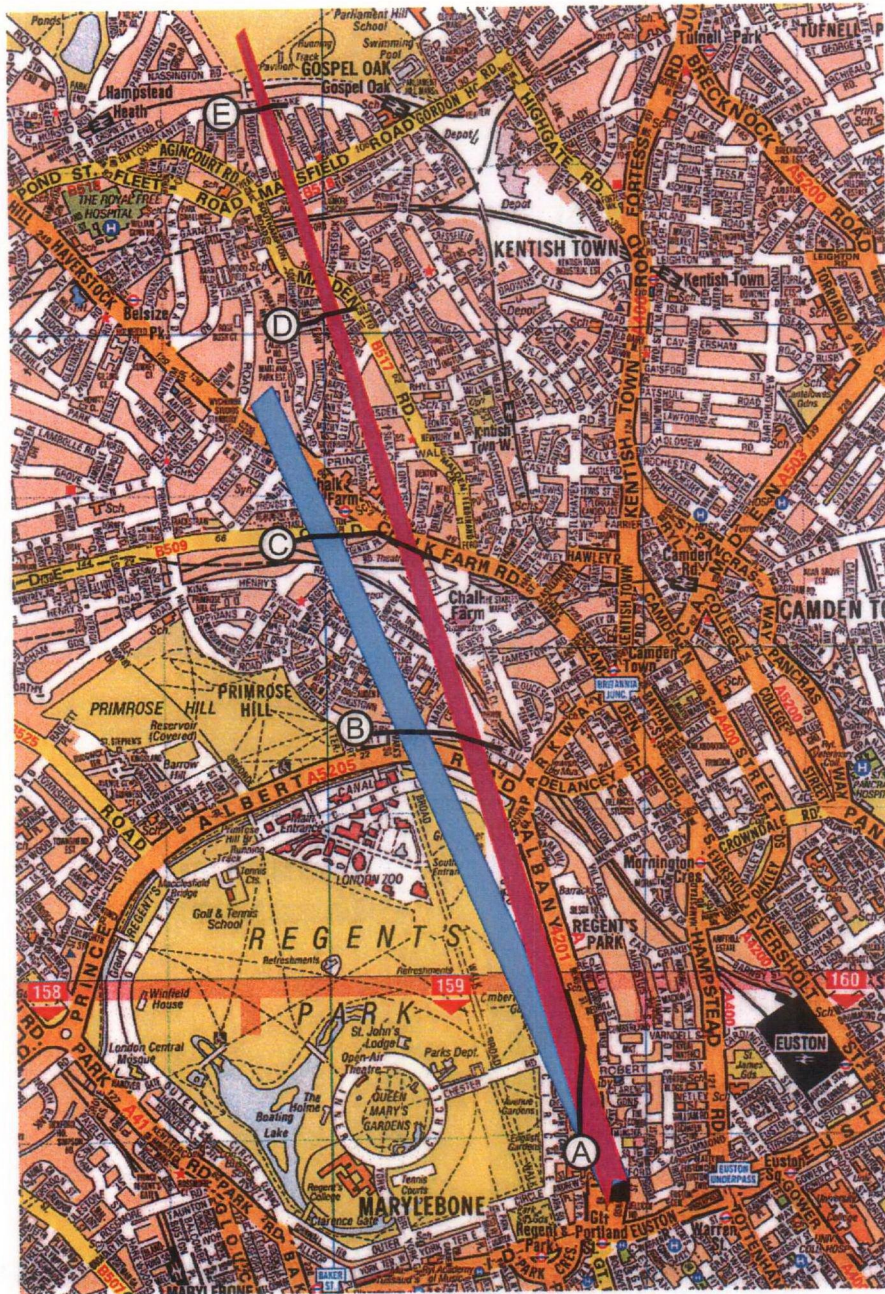


Fig.A.1 : Survey General Layout

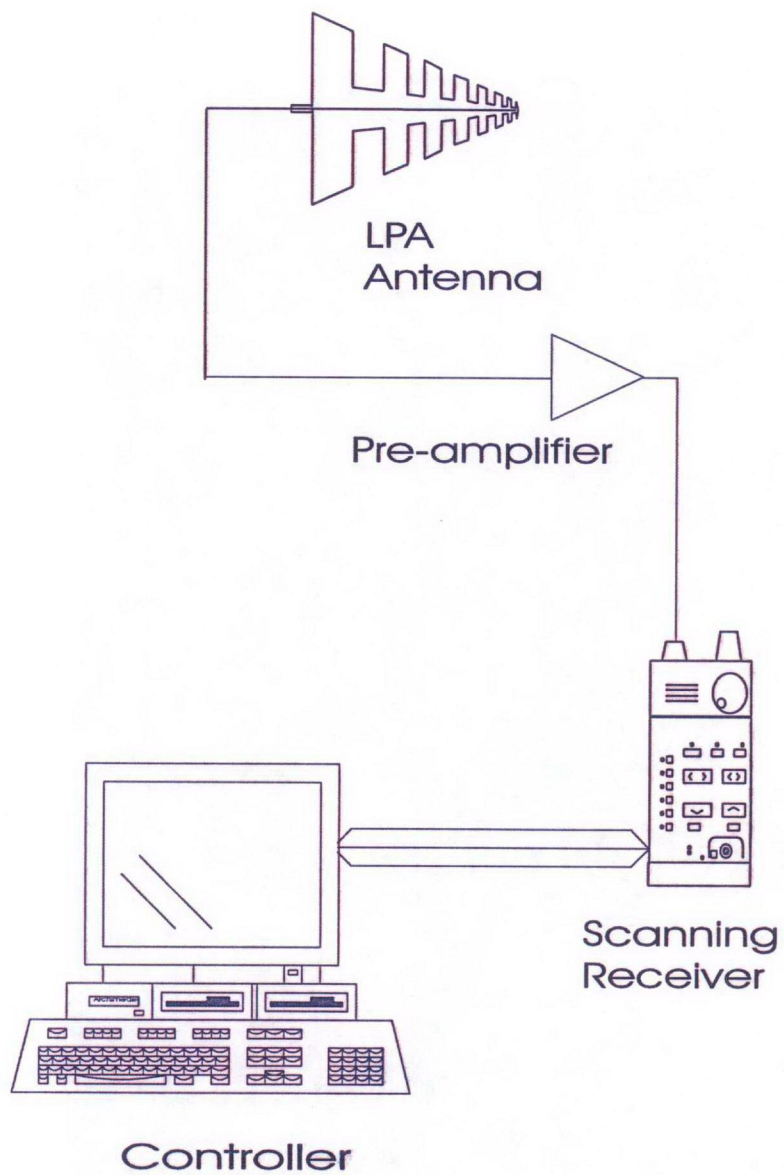


Fig.A.2 : Test Schematic - Signal Strength (450MHz - 650MHz)

APPENDIX B
GRAPHICAL RESULTS

